



**STATE OF MONTANA
MONTANA DEPARTMENT OF TRANSPORTATION
JOB PROFILE**



Update



Formal Review

Date Submitted _____

SECTION I - Identification

Working Title: Consultant Project Engineer

Department: Transportation

Job Code Number: 172017

Division & Bureau: Engineering Division,
Consultant Design Bureau

Job Code Title: Engineering Supervisor/Manager

Section & Unit:
Consultant Plans Section

Pay Band: 7

Work Address: 2701 Prospect Ave.
Helena, MT

Position Number: 39022, 35106, 39017, 39021
60085, 39006, 39007, 39008

Phone:



FLSA Exempt



FLSA Non-Exempt



Non-Union



MPEA



Blue Collar

Profile Completed By: Bryan Miller

Work Phone: 406-444-9413

Work Unit Mission Statement or Functional Description:

The Highways and Engineering Division prepares projects for bidding and coordinates highway construction.

The Consultant Design Bureau manages and develops assigned projects including coordinating and documenting design work between consultants and the MDT; compiling road plan packages (construction plans, geometric data computation, plan quantities estimates, details, technical specifications, and cost estimates needed to build highways on Montana Secondary, Primary, and Interstate highway systems); and obtaining, reviewing and distributing consultant work products such as specialty plans and reports. The Bureau provides comprehensive Scope-of-Work Reports and accurate up-to-date cost estimates to the Transportation Planning Division. The Bureau oversees the consultant selection process and develops contracts with consultants in accordance with state and federal laws and regulations. The Bureau also manages the Community Transportation Enhancement Program (CTEP) and the sub-allocation of funding to qualifying Montana local government units for the construction and development of eligible projects under the federal enhancement set-aside provision.

Describe the Job's Overall Purpose:

This position is a Consultant Project Engineer for the Consultant Design Bureau. The position is responsible for managing the progress of all project activities and taking prompt and decisive action to ensure projects are delivered on schedule. The position is responsible for managing, developing, and documenting all preconstruction activities from project assignment to contract award including selecting consultants to perform project development and design and directing consultants' work to ensure that MDT requirements are met. Projects assigned are generally related to road design, but may also include bridge design, interchanges, rest areas, special studies, traffic, planning, right-of-way, environmental, etc. The position is responsible for management of up to 20 concurrent projects and up to 20 separate consulting firms simultaneously. The position reports to the Consultant Plans Engineer, and is responsible for management of various consultants performing work for the MDT.

SECTION II - Major Duties or Responsibilities

This section should be a clear concise statement of the position's major duties and the approximate percent of work time for each duty

% of Time

- | | | |
|-----------|---|------------|
| A. | <u>Contract development and administration</u> | 35% |
| | Direct the development and implementation of project design contracts to ensure that qualified consultants are selected and to provide cost-effective and timely project documentation which meets state and federal standards. | |
| | 1. Conduct extensive research both within MDT and with external firms and agencies to identify any pertinent project information or analyses that may be applicable to assigned projects. This includes mapping, survey, aerial photo, cultural reports, soil surveys, EAs/EISs, etc. The position must perform advanced analysis of this data to ensure it is up to date and adequate for project needs, and to identify additional project information requirements. | |
| | 2. Develop methods and approaches for gathering additional required project data. This involves assessment of statewide MDT staff, resources, and expertise to determine the scope of the project and which specific activities will be contracted to consultants. The position must coordinate with various sections, bureaus, and divisions within the MDT as well as staff in other agencies to identify information needs and develop and implement data gathering systems and approaches. | |
| | 3. Develop in-house project cost and time estimates for projects to use in evaluating consultant proposals. This involves conducting research into past MDT projects and precedents; assessing current materials, level of effort, and design resource requirements and costs; performing advanced project modeling and estimating work using engineering concepts and automated tools; applying professional judgement and assessing various project completion methods to complete negotiations. | |
| | 4. Research and analyze engineering and design standards and procurement requirements to identify how they relate to project needs and activities. Develop unique approaches to large and specialized engineering service procurement processes by analyzing the scope of proposed projects, and interviewing management, designers, construction staff, and other specialized professionals to synthesize information regarding project needs. Develop legal and concise formal RFPs ensuring that all project deliverables, services terms, requirements, and standard legal language are included. This involves ensuring rating criteria are valid, relate to project needs and are not discriminatory or overly restrictive, and determining how to weight selection criteria. Develop timeframes for proposal and selection | |

processes that meet agency demands and comply with project, legal and administrative requirements (including Civil Rights and vendor preference laws and requirements).

5. Respond to, or coordinate responses to consultant requests for clarification. This involves conducting research into project alternatives and requirements to develop responses, and may involve negotiations with consultants to identify suitable product or service alternatives that may be more cost-effective. Develop changes in scope and draft clarifications and addenda.
6. Direct the evaluation of proposals by the Consultant Selection Board. This involves narrowing consultant responses based on evaluation of qualifications; facilitating evaluation meetings; ensuring proceedings are appropriate and documented; and ensuring project evaluation criteria are applied appropriately. The position provides professional advice and direction in the interpretation and evaluation of selection criteria and consultant responses. Ensure all consultants are judged on the same criteria through negotiations or discussions with selected consultants to gather additional information such as costs associated with alternative approaches, different materials, etc.
7. Review projects with consultants prior to finalizing agreements to ensure all appropriate construction plans, geometric data computation, plan quantities estimates, details, technical specifications, cost estimates, and administrative contract requirements are included. Review the draft agreement with the consultant in consideration of any clarifications or modifications to ensure all applicable terms and restrictions are included. Negotiate terms within general project parameters (e.g., 10% of original project estimates), and achieve consensus between consultants and the MDT on revised terms.
8. Prepare consultant agreements and amendments to those agreements to ensure accurate and legal documentation of project requirements. This involves reviewing all requirements for the project to ensure they are included, ensuring the latest legal documentation is included, ensuring all work items required by the project are covered by the agreement, and obtaining appropriate approvals (e.g., from legal staff, the Director's Office, Engineering, etc.).
9. Monitor compliance with established agreements and timeframes for achievement of goals through consultation and meetings with consultants and MDT staff and supervisors (weekly meetings, status reports), personal observation, and through discussions with other MDT staff. Ensure project compliance with federal, state, and agency laws, regulations, and policies by reviewing current work products in relation to state and federal mandates and applicable regulations and standards.
10. Monitor project expenditures to ensure compliance with agreements and to track funding levels through review of project expense reports and approval of expenditures. Review and approve all consultant claims for the project to ensure budgets are not exceeded and MDT resources are used in the most efficient manner possible.
11. Monitor consultant progress reports and review all requests for contract amendments to ensure projects are being completed in a cost-effective and timely manner. This involves determining whether proposed changes are within the scope of the original agreement; negotiating terms of change orders; comparing actual charges to expected project costs; calculating time and cost impacts of proposed changes; evaluating designs and plans for adherence to contracted terms and overall adequacy, quality, and safety; and consulting with specialty work units in the department regarding design or other problems.

B. Project development, design and planning

35%

Provide administrative and engineering oversight of project development and design activities to ensure that consultant work is completed according to agreements; all appropriate engineering, environmental, and regulatory considerations have been incorporated; and that sound engineering and design concepts are utilized.

1. Conduct initial project assessments with consultants to facilitate understanding of all required project requirements. This involves engineering assessment of the preliminary design through both office and field reviews to ensure compliance with design standards (e.g., grade, alignment, soils, topography, drains, snow standards, safety requirements, etc.), and that other project requirements and control standards e.g., environmental assessments, utilities, right-of-way, wetland and cultural assessments, etc. are considered in the project plan.
2. Arrange for and conduct office reviews, alignment and grade reviews, plan-in-hand reviews, final plan reviews, and conferences for special design considerations by consultants, MDT personnel, and other state and local agency personnel as needed. This involves soliciting comments, attempting to resolve discrepancies and differing views, and attaining agreement or consensus of design solutions to engineering problems. Review, distribute, and document decisions made at reviews.
3. Coordinate and provide direction to other MDT sections to assist in achieving project tasks. This involves resolving project problems, identifying and addressing consultant resource needs and coordinating the exchange of accurate, current information among consultants, MDT staff, utilities, local governments, etc. This includes directing consultants and others to the right place to get information, interpreting project requirements and applicable laws and regulations, negotiating among the various parties to resolve disputes, and monitoring and coordinating interrelated projects with other agencies.
4. Initiate and review studies of design alternatives to determine optimum locations and design features for projects. Ensure proper engineering judgment and theory is used along with design standards to determine the most cost-effective design that addresses the safety needs of the traveling public. Perform advanced analysis of value-engineering proposals to determine if similar project results (e.g., structural integrity, useful life, maintenance requirements, etc.) can be attained in a more cost-effective manner.
5. Correspond with local, state, and federal agencies to obtain or furnish information regarding planned and proposed construction projects, and MDT and federal standards and requirements for design and construction specifications. Prepare and review agreements between the department and counties/cities (and other agencies e.g., Forest Service, FWP, DNRC, etc.) for projects. Provide assistance to cooperating agencies in the development and selection of consultants for project work (i.e., provide consultant management services similar to those provided to MDT – selection, monitoring, engineering oversight, etc.).
6. Develop and facilitate meetings with consultants and MDT staff and management (e.g., construction, materials, engineering, etc.) to provide information, training, and discussion opportunities. The position is responsible for determining parties to involve in meetings, developing agendas, facilitating meetings, providing project updates and holding consultants accountable for project status.
7. Coordinate public relations and information dissemination activities to ensure the proper flow of accurate information and increase local involvement and cooperation. This involves identifying pertinent project information and passing it along to impacted citizens, initiating beneficial changes in plans resulting from public hearings, coordinating efforts to minimize adverse environmental or aesthetic impacts, and providing justifications for unavoidable

impacts. Participate in public hearings by answering questions related to project location, environmental impacts, completion targets, design details, and other issues.

C. Consultant supervision 20%

Directly supervise consultants hired to perform design and research work for the MDT. This involves assigning and reviewing work, ensuring consultants have the information and other resources necessary to complete assigned projects, negotiating and resolving problems and contract disputes, initiating corrective action to bring consultants into compliance with agreements, and assessing and documenting consultant performance information for use in evaluating projects and for future consultant selection.

1. Manage consultant work activities related to project design and documentation. This involves answering questions from consultants on a variety of issues including engineering design, right-of-way, easements, and other factors; referring consultants to MDT specialty work units; ensuring the distribution of current, accurate project information; answering questions and responding to inquiries regarding project status, and approving (or securing appropriate approval for) all official documents and correspondence.
2. Assign and review specific preconstruction design and planning assignments to consultants to ensure that MDT project information needs are met in a timely manner and that consultant work complies with standards and agreements. This involves establishing and adjusting (as necessary) project priorities, negotiating and establishing deadlines, and conducting advanced engineering review of work products to determine the overall adequacy of the approach and concept behind the design and the technical adequacy of the information.
3. Establish and monitor criteria and milestones for evaluating project completion and consultant performance. Work with consultants and MDT staff to identify and resolve consultant performance deficiencies. Maintain documentation of consultant performance for use in future selection activities. Implement and monitor corrective action, and develop effective recommendations for termination of contracts for noncompliance.
4. Direct the preparation of reports, studies, summaries, research proposals, and special reports, related to construction projects as directed by the Consultant Design Engineer to ensure sound judgment and engineering practices are incorporated. Develop research methodologies and criteria for consultants to follow when working with the MDT, and review all reports and studies prepared by consultants to identify and correct errors and ensure the data is clear and meaningful.

D. Other duties as assigned 5%

Perform a variety of other engineering, project management, and public relations activities as assigned by the Consultant Design Engineer, Preconstruction Engineer and Administrator in support of the MDT mission and division objectives. This includes providing public information, training and education, directing special projects, and attending on-going education and training as directed.

E. Construction 5%

Provide professional engineering advice and design information to assist the Construction Bureau and District Offices in project completion.

1. Provide assistance and advice to design crews in the interpretation and application of original design plans. This work ensures that actual project designs are in compliance with original plans and applicable regulations.

2. Develop engineering alternatives and innovative approaches to construction design problems (e.g., unexpected site or environmental conditions, design flaws, safety concerns, aesthetic problems, etc.). This involves advanced engineering design, research, and coordination among various MDT work units to identify and resolve construction or design deficiencies.
3. Provide engineering design advice and technical assistance to District Offices, counties, individuals, contractors, and others regarding project design practices, consultant monitoring, and construction regulations, codes and criteria.

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1. ***The following duties and/or specific tasks listed under section II above are considered "essential functions" because they require specialized expertise and skill and are the primary reasons the job exists (they must be performed by this position with or without accommodations): Duties A, B and C.***

The following mental and physical demands are associated with these essential functions:

PHYSICAL

- Light lifting (less than 10 lbs.)
- Carry light items (papers, books, small parts)
- Remaining seated for extended periods of time, with occasional walking; standing; bending
- Travel within the state to project locations, and out of state travel by airline to national conferences and meetings.
- Operating a personal computer
- Communicate in writing, in person and over the phone

MENTAL

- Deal with the public on a regular basis
- Ability to multi-task
- Demands for accuracy in all aspects of work
- Ability to meet inflexible deadlines
- Decision making that affects public health and safety
- Complex mathematics including statistical analysis
- Comparing data
- Compiling information, Analyzing, Coordinating, Synthesizing, Negotiating, Instructing
- Application of sound Engineering Judgment

2. ***Does this position supervise others?*** ☐ Yes ☒ No

Number directly supervised:

Position Number(s) of those supervised:

Note: This position directly supervises consultants hired to perform design and research work for MDT. This involves assigning and reviewing work, negotiating and resolving problems and contract disputes, and initiating corrective action to bring consultants into compliance with agreements. Employee regularly prepares performance evaluations of consultants hired by the department. These evaluations affect the consultants' ability to get additional work from the department.

3. Attach an Organizational Chart.

SECTION III - Minimum Qualifications - List minimum requirements for the first day of work.

Critical knowledge and skills required for this position:

KNOWLEDGE: The position requires knowledge of the concepts and theories of civil engineering, mathematics, the physical sciences, and contract law and administration; surveying, photogrammetry, hydraulic engineering, traffic engineering, structural engineering, and safety design; highway economic, safety, and efficiency issues; Engineering Division objectives and Consultant Design Bureau goals; project planning; research methods and techniques; highway construction methods and techniques; project budget development and monitoring; transportation planning processes; field applications of highway engineering and construction; environmental rules and regulations; project management and documentation; construction methods and practices; material specifications; plan requirements; Civil Rights and DBE requirements; utility and traffic engineering; right-of-way and property laws and regulations; supervisory methods and techniques; contract law and administration; business and public administration; procurement processes and practices; state and federal contracting regulations and procedures; budget development and monitoring; DBE and Title VI requirements; and a working knowledge of the functions and policies of other divisions and work units within the MDT.

SKILLS: Skill in project management; drawing conclusions and making recommendations; program planning and management, developing and organizing procedures; communication; assessing construction plans and projects; developing and administering a variety of diverse projects and functions; program administration, short and long-term project planning; performance assessment and monitoring; negotiation; mediation; consensus-building; and in developing comprehensive solutions to complex construction engineering problems.

Behaviors required to perform these duties:

See MDT Core Behaviors

Education:

Check the one box indicating minimum education requirements for this position for a new employee the first day of work:

- | | |
|---|--|
| <input type="checkbox"/> No education required | <input type="checkbox"/> Related AAS/2-years college/vocational training |
| <input type="checkbox"/> High school diploma or equivalent | <input checked="" type="checkbox"/> Related Bachelor's Degree |
| <input type="checkbox"/> 1-year related college/voc. training | <input type="checkbox"/> Related Master's degree |

Please specify the acceptable fields of study:

Acceptable: Civil Engineering or a closely related field.

Other education, training, certification, or licensing required (specify): Licensure as a Professional Engineer in Montana is required.

Experience:

Check the one box indicating minimum work-related experience requirements for this position for a new employee the first day of work:

- | | |
|---|---|
| <input type="checkbox"/> No prior experience required | <input type="checkbox"/> 3 years |
| <input type="checkbox"/> 1 year | <input type="checkbox"/> 4 years |
| <input type="checkbox"/> 2 years | <input checked="" type="checkbox"/> 5 or more years |

Other specific experience (optional): Six years of progressively responsible experience including project planning, design, construction, or maintenance experience, and including one year of supervisor and/or contract administration experience.

Alternative Qualifications:

This agency will accept alternative methods of obtaining necessary qualifications.

☐ Yes ☒ No

Alternative qualifications include:

SECTION IV – Other Important Job Information

- | | |
|--|--|
| <input type="checkbox"/> Fingerprint check | <input checked="" type="checkbox"/> Valid driver's license |
| <input type="checkbox"/> Background check | <input type="checkbox"/> Other; Describe |

Other information including working conditions such as shifts, lifting requirements, travel or hours.

Predominant work is performed in an office environment and in the field. The position involves travel throughout the state to project locations.

SECTION V – Signatures

Signature indicates this statement is accurate and complete.

Employee:

Name: _____ Title: _____

Signature: _____ Date: _____

Immediate Supervisor:

Name: _____ Title: _____

Signature: _____ Date: _____

Bureau Chief:

Name: _____ Title: _____

Signature: _____ Date: _____

Division/District Administrator:

Name: _____ Title: _____

Signature: _____ Date: _____

Department Designee:

Brent Rabe/Designee

Chief Human Resources Officer
Human Resources Division

Signature: _____ Date: _____